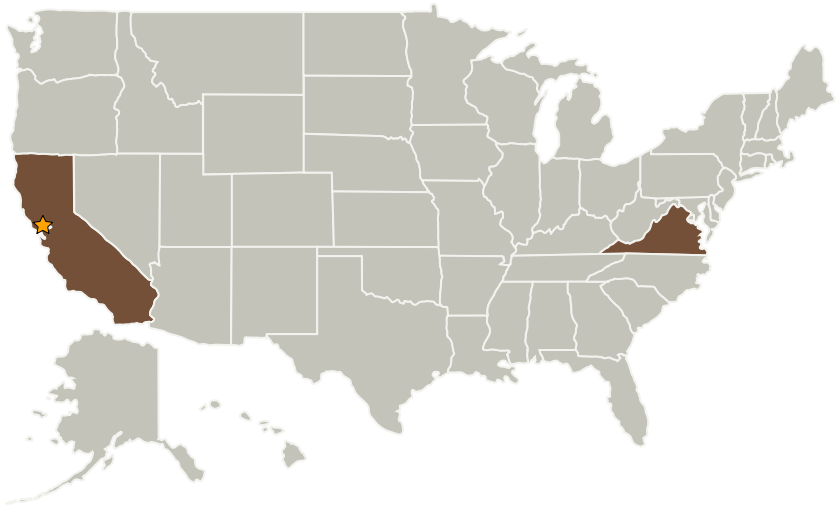
Fire Mapper, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

The design of a UAV mounted Fire Mapper system is proposed. The system consists of a multi-band imaging sensor, a data processing system and a data communication system that are capable of detecting fires and providing fire information in near real time to an Incident Command Team. The sensor incorporates high performance QWIP IR detectors and a compact, lightweight scanner derived from an earlier NASA SBIR program. Location and platform attitude measurements are made and this information is combined with a DEM and applied to the image sensor output, producing fire and terrain image information that is GIS compatible. The Phase I work will assess available technologies, develop algorithms, evaluate tradeoffs and produce a preliminary design for a prototype system that can be built and flight demonstrated in Phase II with a NASA supplied UAV platform. To accomplish these goals, the program will leverage the background of the NASA science team, the USDA Forest Service fire crews, SenSyTech airborne imaging experience and other SenSyTech customer experience; all of which have contributed to methods and systems for wildland fire detection and mapping.

Primary U.S. Work Locations and Key Partners



Fire Mapper, Phase I

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
SenSyTech, Inc. Imaging Group	Supporting Organization	Industry	Newington, Virginia

Primary U.S. Work Locations	
California	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

John E Green

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.4 Environmental Monitoring, Safety, and Emergency Response
    - TX06.4.2 Fire: Detection, Suppression, and Recovery